

Fig. 1

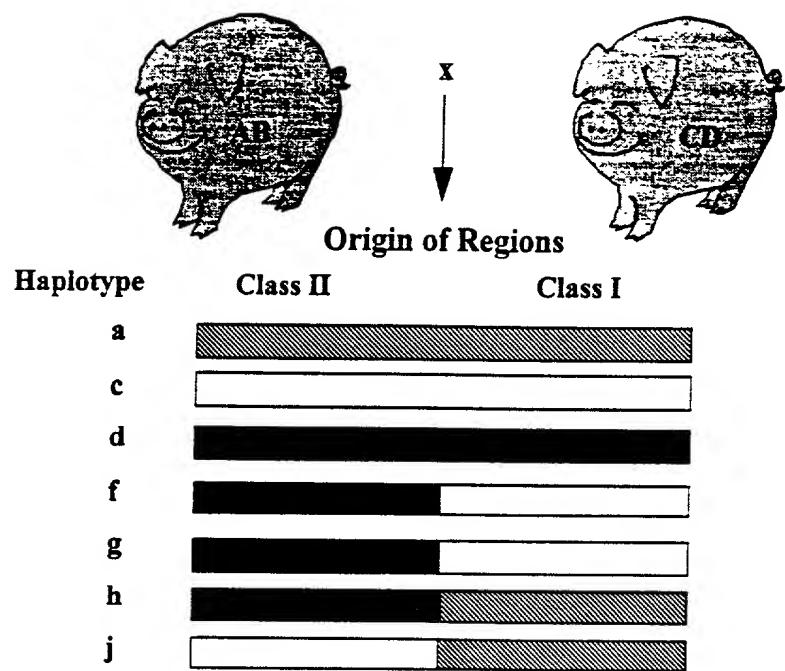


Fig. 2

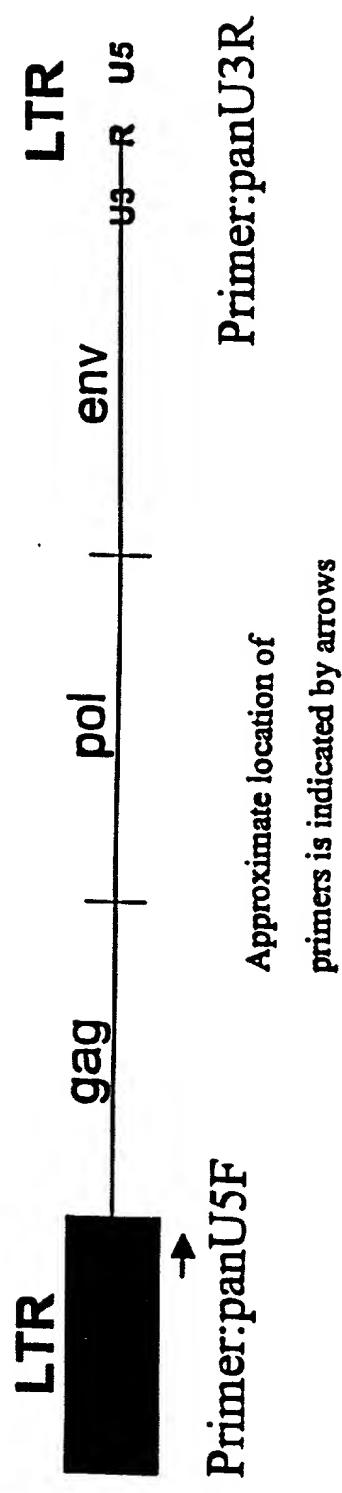


FIGURE 3(a) Sequence of clone 12002-1

ATGCATCCCA CGTTAAGCCG GCGCCACCTC CCGATTGGG GTGGAAAGCC 50
GAAAAGACTG AAAATCCCCT TAAGCTTCGC CTCCATCGCG TGGTTCCCTTA 100
CTCTGTCAAT AACTCCTCAA GTTAATGGTA AACGCCTTGT GGACAGCCCG 150
AACTCCCATA AACCCCTTATC TCTCACCTGG TTACTTACTG ACTCCGGTAC 200
AGGTATTAAT ATTAACAGCA CTCAAGGGGA GGCTCCCTTG GGGACCTGGT 250
GGCCTGAATT ATATGTCTGC CTTCGATCAG TAATCCCTGG TCTCAATGAC 300
CAGGCCACAC CCCCCGATGT ACTCCGTGCT TACGGGTTTT ACAGTTGCTC 350
AGGACCCCCA AATAATGAAG AATATTGCGG AAATCCTCAG GATTTCCTTT 400
GCAAGCAATG GAGCTGCGTA ACTTCTAATG ATGGGAATTG GAAATGGCCA 450
GTCTCTCAGC AAGACAGAGT AAGTTACTCT TTTGTTAACAA ATCCTACCAG 500
TTATAATCAA TTTAATTATG GCCATGGGAG ATGGAAAGAT TGGCAACAGC 550
GGGTACAAAAA AGATGTACGA AATAAGCAAA TAAGCTGTCA TTCGTTAGAC 600

FIGURE 3(b) Sequence of clone 12002-2

ATGCATCCCA CGTTAAGCCG GCGCCACCTC CCGATTGGG GTGGAAAGCC 50
GAAAAGACTG AAAATCCCCT TAAGCTTCGC CTCCATCGCG TGGTTCCCTTA 100
CTCTGTCAAT AACTCCTCAA GTTAATGGTA AACGCCTTGT GGACAGCCCG 150
AACTCCCATA AACCCCTTATC TCTCACCTGG TTACTTACTG ACTCCGGTAC 200
AGGTATTAAT ATTAACAGCA CTCAAGGGGA GGCTCCCTTG GGGACCTGGT 250
GGCCTGAATT ATATGTCTGC CTTCGATCAG TAATCCCTGG TCTCAATGAC 300
CAGGCCACAC CCCCCGATGT ACTCCGTGCT TACGGGTTTT ACAGTTGCCC 350
AGGACCCCCA AATAATGAAG AATATTGTTGG AAATCCTCAG GATTTCCTTT 400
GCAAGCAATG GAGCTGCGTA ACTTCTAATG ATGGGAATTG GAAATGGCCA 450
GTCTCTCAGC AAGACAGAGT AAGTTACTCT TTTGTTAACAA ATCCTACCAG 500
TTATAATCAA TTTAATTATG GCCATGGGAG ATGGAAAGAT TGGCAACAGC 550
GGGTACAAAAA AGATGTACGA AATAAGCAAA TAAGCTGTCA TTCGTTAGAC 600

FIGURE 3(c) Sequence of clone 12002-3

ATGCATCCCA CGTTAAGCCG GCGCCACCTC CCGATTGGG GTGGAAAGCC 50
GAAAAGACTG AAAATCCCCT TAAGCTTCGC CTCCATCGCG TGGTTCCCTTA 100
CTCTGTCAAT AACTCCTCAA GTTAATGGTA AACGCCTTGT GGACAGCCCG 150
AACTCCCATA AACCCCTTATC TCTCACCTGG TTACTTACTG ACTCCGGTAC 200
AGGTATTAAT ATTAACAGCA CTCAAGGGGA GGCTCCCTTG GGGACCTGGT 250
GGCCTGAATT ATATGTCTGC CTTCGATCAG TAATCCCTGG TCTCAATGAC 300
CAGGCCACAC CCCCCGATGT ACTCCGTGCT TACGGGTTTT ACAGTTGCCC 350
AGGACCCCCA AATAATGAAG AATATTGTTGG AAATCCTCAG GATTTCCTTT 400
GCAAGCAATG GAGCTGCGTA ACTTCTAATG ATGGGAATTG GAAATGGCCA 450
GTCTCTCAGC AAGACAGAGT AAGTTACTCT TTTGTTAACAA ATCCTACCAG 500
TTATAATCAA TTTAATTATG GCCATGGGAG ATGGAAAGAT

FIGURE 3(d) Sequence of clone 12002-4

ATGCATCCA CGTTAAGCCG GCGCCACCTC CCGATTGGG GTGGAAAGCC 50
GAAAAGACTG AAAATCCCCT TAAGCTTCGC CTCCATCGCG TGGTTCTTA 100
CTCTGTCAAT AACTCCTCAA GTTAATGGTA AACGCCTTGT GAACAGTCCG 150
AACTCCCATA AACCCCTTATC TCTCACCTGG TTACTTACTG ACTCCGGTAC 200
AGGTATTAAT ATTAACAGCA CTCAAGGGGA GGCTCCCTG GGGACCTGGT 250
GGCCTGAATT ATATGTCTGC CTTCGATCAG TAATCCCTGG TCTCAATGAC 300
CAGGCCACAC CCCCCGATGT ACTCCGTGCT TACGGGTTTT ACGTTTGCCTC 350
AGGACCCCCA AATAATGAAG AATATTGTGG AAATCCTCAG GATTTCCTTT 400
GCAAGCAATG GAGCTGCGTA ACTTCTAATG ATGGGAATTG GAAATGGCCA 450
GTCTCTCAGC AAGACAGAGT AAGTTACTCT TTTGTTAACAA ATCCTACCAG 500
TTATAATCAA TTTAATTATG GCCATGGGAG ATGGAAAGAT TGGCAACAGC 550
GGGTACAAAAA AGATGTACGA AATAAGCAAA TAAGCTGTCA TTCGTTAGAC 600

FIGURE 3(e) Sequence of clone 12002-5

ATGCATCCA CGTTAAGCCG GCGCCACCTC CCGATTGGG GTGGAAAGCC 50
GAAAAGACTG AAAATCCCCT TAAGCTTCGC CTCCATCGCG TGGTTCTTA 100
CTCTGTCAAT AACTCCTCAA GTTAATGGTA AACGCCTTGT GAACAGTCCG 150
AACTCCCATA AACCCCTTATC TCTCACCTGG TTACTTACTG ACTCCGGTAC 200
AGGTATTAAT ATTAACAGCA CTCAAGGGGA GGCTCCCTG GGGACCTGGT 250
GGCCTGAATT ATATGTCTGC CTTCGATCAG TAATCCCTGG TCTCAATGAC 300
CAGGCCACAC CCCCCGATGT ACTCCGTGCT TACGGGTTTT ACGTTTGCCTC 350
AGGACCCCCA AATAATGAAG AATATTGTGG AAATCCTCAG GATTTCCTTT 400
GCAAGCAATG GAGCTGCGTA ACTTCTAATG ATGGGAATTG GAAATGGCCA 450
GTCTCTCAGC AAGACAGAGT AAGTTACTCT TTTGTTAACAA ATCCTACCAG 500
TTATAATCAA TTTAATTATG GCCATGGGAG ATGGAAAGAT TGGCAACAGC 550
GGGTACAAAAA AGATGTACGA AATAAGCAAA TAAGCTGTCA TTCGTTAGA

FIGURE 3(f) Sequence of clone 12002-6

ATGCATCCA CGTTAAGCCG GCGCCACCTC CCGATTGGG GTGGAAAGCC 50
GAAAAGACTG AAAATCCCCT TAAGCTTCGC CTCCATCGCG TGGTTCTTA 100
CTCTGTCAAT AACTCCTCAA GTTAATGGTA AACGCCTTGT GAACAGTCCG 150
AACTCCCATA AACCCCTTATC TCTCACCTGG TTACTTACTG ACTCCGGTAC 200
AGGTATTAAT ATTAACAGCA CTCAAGGGGA GGCTCCCTG GGGACCTGGT 250
GGCCTGAATT ATATGTCTGC CTTCGATCAG TAATCCCTGG TCTCAATGAC 300
CAGGCCACAC CCCCCGATGT ACTCCGTGCT TACGGGTTTT ACGTTTGCCTC 350
AGGACCCCCA AATAATGAAG AATATTGTGG AAATCCTCAG GATTTCCTTT 400
GCAAGCAATG GAGCTGCGTA ACTTCTAATG ATGGGAATTG GAAATGGCCA 450
GTCTCTCAGC AAGACAGAGT AAGTTACTCT TTTGTTAACAA ATCCTACCAG 500
TTATAATCAA TTTAATTATG GCCATGGGAG ATGGAAAGAT TGGCAACAGC 550
GGGTACAAAAA AGATGTACGA AATAAGCAAA TAAGCTGTCA TTCGTTAGA

FIGURE 3(g) Sequence of clone 12002-7

ATGCATCCCA CGTTAAGCCG GCGCCACCTC CCGATTGGG GTGGAAAGCC 50
GAAAAGACTG AAAATCCCCT TAAGCTTCGC CTCCATCGCG TGGTCCTTA 100
CTCTGTCAAT AACTCCTCAA GTTAATGGTA AACGCCTGT GAACAGTCCG 150
AACTCCCATA AACCCCTTATC TCTCACCTGG TTACTTACTG ACTCCGGTAC 200
AGGTATTAAT ATTAACAGCA CTCAAGGGGA GGCTCCCTTGG 250
GGCCTGAATT ATATGTCTGC CTTCGATCAG TAATCCCTGG TCTCAATGAC 300
CAGGCCACAC CCCCCGATGT ACTCCGTGCT TACGGGTTTT ACGTTGCC 350
AGGACCCCCA AATAATGAAG AATATTGTGG AAATCCTCAG GATTTCTTTT 400
GCAAGCAATG GAGCTGCGTA ACTTCTAATG ATGGGAATTG GAAATGGCCA 450
GTCTCTCAGC AAGACAGAGT AAGTTACTCT TTTGTTAACCA ATCCTACCAG 500
TTATAATCAA TTTAATTATG GCCATGGGAG ATGGAAAGAT TGGCAACAGC 550
GGGTACAAAA AGATGTACGA AATAAGCAA TAAGCTGTCA TTCGTTAGAC 600

FIGURE 4

Comparison of sequences of clones 12002-1 though 12002-7

12002-1.DNA	1 ATGCATCCCA CGTTAAGCCG GCGCCACCTC CCGATTGGG GTGAAAGCC	50
12002-2.DNA	1 ATGCATCCCA CGTTAAGCCG GCGCCACCTC CCGATTGGG GTGAAAGCC	50
12002-3.DNA	1 ATGCATCCCA CGTTAAGCCG GCGCCACCTC CCGATTGGG GTGAAAGCC	50
12002-4.DNA	1 ATGCATCCCA CGTTAAGCCG GCGCCACCTC CCGATTGGG GTGAAAGCC	50
12002-5.DNA	1 ATGCATCCCA CGTTAAGCCG GCGCCACCTC CCGATTGGG GTGAAAGCC	50
12002-6.DNA	1 ATGCATCCCA CGTTAAGCCG GCGCCACCTC CCGATTGGG GTGAAAGCC	50
12002-7.DNA	1 ATGCATCCCA CGTTAAGCCG GCGCCACCTC CCGATTGGG GTGAAAGCC	50
12002-1.DNA	51 GAAAAGACTG AAAATCCCCCT TAAGCTTCGC CTCCATCGCG TGTTCCCTTA	100
12002-2.DNA	51 GAAAAGACTG AAAATCCCCCT TAAGCTTCGC CTCCATCGCG TGTTCCCTTA	100
12002-3.DNA	51 GAAAAGACTG AAAATCCCCCT TAAGCTTCGC CTCCATCGCG TGTTCCCTTA	100
12002-4.DNA	51 GAAAAGACTG AAAATCCCCCT TAAGCTTCGC CTCCATCGCG TGTTCCCTTA	100
12002-5.DNA	51 GAAAAGACTG AAAATCCCCCT TAAGCTTCGC CTCCATCGCG TGTTCCCTTA	100
12002-6.DNA	51 GAAAAGACTG AAAATCCCCCT TAAGCTTCGC CTCCATCGCG TGTTCCCTTA	100
12002-7.DNA	51 GAAAAGACTG AAAATCCCCCT TAAGCTTCGC CTCCATCGCG TGTTCCCTTA	100
12002-1.DNA	101 CTCTGTCAAT AACTCCTCAA GTTAATGGTA AACGCCTTGT GGACAGCCCG	150
12002-2.DNA	101 CTCTGTCAAT AACTCCTCAA GTTAATGGTA AACGCCTTGT GGACAGCCCG	150
12002-3.DNA	101 CTCTGTCAAT AACTCCTCAA GTTAATGGTA AACGCCTTGT GGACAGCCCG	150
12002-4.DNA	101 CTCTGTCAAT AACTCCTCAA GTTAATGGTA AACGCCTTGT GGACAGCCCG	150
12002-5.DNA	101 CTCTGTCAAT AACTCCTCAA GTTAATGGTA AACGCCTTGT GGACAGCCCG	150
12002-6.DNA	101 CTCTGTCAAT AACTCCTCAA GTTAATGGTA AACGCCTTGT GGACAGCCCG	150
12002-7.DNA	101 CTCTGTCAAT AACTCCTCAA GTTAATGGTA AACGCCTTGT GGACAGCCCG	150
12002-1.DNA	151 AACTCCCAT AACCCTTATC TCTCACCTGG TTACTTACTG ACTCCGTAC	200
12002-2.DNA	151 AACTCCCAT AACCCTTATC TCTCACCTGG TTACTTACTG ACTCCGTAC	200
12002-3.DNA	151 AACTCCCAT AACCCTTATC TCTCACCTGG TTACTTACTG ACTCCGTAC	200
12002-4.DNA	151 AACTCCCAT AACCCTTATC TCTCACCTGG TTACTTACTG ACTCCGTAC	200
12002-5.DNA	151 AACTCCCAT AACCCTTATC TCTCACCTGG TTACTTACTG ACTCCGTAC	200
12002-6.DNA	151 AACTCCCAT AACCCTTATC TCTCACCTGG TTACTTACTG ACTCCGTAC	200
12002-7.DNA	151 AACTCCCAT AACCCTTATC TCTCACCTGG TTACTTACTG ACTCCGTAC	200
12002-1.DNA	201 AGGTATTAAAT ATTAACAGCA CTCAAGGGGA GGCTCCCTTG GGGACCTGGT	250
12002-2.DNA	201 AGGTATTAAAT ATTAACAGCA CTCAAGGGGA GGCTCCCTTG GGGACCTGGT	250
12002-3.DNA	201 AGGTATTAAAT ATTAACAGCA CTCAAGGGGA GGCTCCCTTG GGGACCTGGT	250
12002-4.DNA	201 AGGTATTAAAT ATTAACAGCA CTCAAGGGGA GGCTCCCTTG GGGACCTGGT	250
12002-5.DNA	201 AGGTATTAAAT ATTAACAGCA CTCAAGGGGA GGCTCCCTTG GGGACCTGGT	250
12002-6.DNA	201 AGGTATTAAAT ATTAACAGCA CTCAAGGGGA GGCTCCCTTG GGGACCTGGT	250
12002-7.DNA	201 AGGTATTAAAT ATTAACAGCA CTCAAGGGGA GGCTCCCTTG GGGACCTGGT	250
12002-1.DNA	251 GGCTGAAATT ATATGTCCTGC CTTCGATCG TAATCCCTGG TCTCAATGAC	300
12002-2.DNA	251 GGCTGAAATT ATATGTCCTGC CTTCGATCG TAATCCCTGG TCTCAATGAC	300
12002-3.DNA	251 GGCTGAAATT ATATGTCCTGC CTTCGATCG TAATCCCTGG TCTCAATGAC	300
12002-4.DNA	251 GGCTGAAATT ATATGTCCTGC CTTCGATCG TAATCCCTGG TCTCAATGAC	300
12002-5.DNA	251 GGCTGAAATT ATATGTCCTGC CTTCGATCG TAATCCCTGG TCTCAATGAC	300
12002-6.DNA	251 GGCTGAAATT ATATGTCCTGC CTTCGATCG TAATCCCTGG TCTCAATGAC	300
12002-7.DNA	251 GGCTGAAATT ATATGTCCTGC CTTCGATCG TAATCCCTGG TCTCAATGAC	300
12002-1.DNA	301 CAGGCCACAC CCCCCGATGT ACTCCGTGCT TACGGGTTTT ACGTTGCTC	350
12002-2.DNA	301 CAGGCCACAC CCCCCGATGT ACTCCGTGCT TACGGGTTTT ACGTTGCCC	350
12002-3.DNA	301 CAGGCCACAC CCCCCGATGT ACTCCGTGCT TACGGGTTTT ACGTTGCCC	350
12002-4.DNA	301 CAGGCCACAC CCCCCGATGT ACTCCGTGCT TACGGGTTTT ACGTTGCCC	350
12002-5.DNA	301 CAGGCCACAC CCCCCGATGT ACTCCGTGCT TACGGGTTTT ACGTTGCCC	350
12002-6.DNA	301 CAGGCCACAC CCCCCGATGT ACTCCGTGCT TACGGGTTTT ACGTTGCCC	350
12002-7.DNA	301 CAGGCCACAC CCCCCGATGT ACTCCGTGCT TACGGGTTTT ACGTTGCCC	350
12002-1.DNA	351 AGGACCCCCA AATAATGAAG AATATTGCGG AAATCCTCG GATTTCCTTT	400
12002-2.DNA	351 AGGACCCCCA AATAATGAAG AATATTGCGG AAATCCTCG GATTTCCTTT	400
12002-3.DNA	351 AGGACCCCCA AATAATGAAG AATATTGCGG AAATCCTCG GATTTCCTTT	400
12002-4.DNA	351 AGGACCCCCA AATAATGAAG AATATTGCGG AAATCCTCG GATTTCCTTT	400
12002-5.DNA	351 AGGACCCCCA AATAATGAAG AATATTGCGG AAATCCTCG GATTTCCTTT	400
12002-6.DNA	351 AGGACCCCCA AATAATGAAG AATATTGCGG AAATCCTCG GATTTCCTTT	400
12002-7.DNA	351 AGGACCCCCA AATAATGAAG AATATTGCGG AAATCCTCG GATTTCCTTT	400

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Figure 4 (cont'd)

12002-1.DNA	401	GCAAGCAATG	GAGCTGCGTA	ACTTCTAATG	ATGGGAATTG	GAAATGGCCA	450
12002-2.DNA	401	GCAAGCAATG	GAGCTGCGTA	ACTTCTAATG	ATGGGAATTG	GAAATGGCCA	450
12002-3.DNA	401	GCAAGCAATG	GAGCTGCGTA	ACTTCTAATG	ATGGGAATTG	GAAATGGCCA	450
12002-4.DNA	401	GCAAGCAATG	GAGCTGCGTA	ACTTCTAATG	ATGGGAATTG	GAAATGGCCA	450
12002-5.DNA	401	GCAAGCAATG	GAGCTGCGTA	ACTTCTAATG	ATGGGAATTG	GAAATGGCCA	450
12002-6.DNA	401	GCAAGCAATG	GAGCTGCGTA	ACTTCTAATG	ATGGGAATTG	GAAATGGCCA	450
12002-7.DNA	401	GCAAGCAATG	GAGCTGCGTA	ACTTCTAATG	ATGGGAATTG	GAAATGGCCA	450
12002-1.DNA	451	GTCTCTCAGC	AAGACAGAGT	AAGTTACTCT	TTTGTAAACA	ATCCTACCAG	500
12002-2.DNA	451	GTCTCTCAGC	AAGACAGAGT	AAGTTACTCT	TTTGTAAACA	ATCCTACCAG	500
12002-3.DNA	451	GTCTCTCAGC	AAGACAGAGT	AAGTTACTCT	TTTGTAAACA	ATCCTACCAG	500
12002-4.DNA	451	GTCTCTCAGC	AAGACAGAGT	AAGTTACTCT	TTTGTAAACA	ATCCTACCAG	500
12002-5.DNA	451	GTCTCTCAGC	AAGACAGAGT	AAGTTACTCT	TTTGTAAACA	ATCCTACCAG	500
12002-6.DNA	451	GTCTCTCAGC	AAGACAGAGT	AAGTTACTCT	TTTGTAAACA	ATCCTACCAG	500
12002-7.DNA	451	GTCTCTCAGC	AAGACAGAGT	AAGTTACTCT	TTTGTAAACA	ATCCTACCAG	500
12002-1.DNA	501	TTATAATCAA	TTTAATTATG	GCCATGGGAG	ATGGAAAGAT	TGGCAACAGC	550
12002-2.DNA	501	TTATAATCAA	TTTAATTATG	GCCATGGGAG	ATGGAAAGAT	TGGCAACAGC	550
12002-3.DNA	501	TTATAATCAA	TTTAATTATG	GCCATGGGAG	ATGGAAAGAT	-----	550
12002-4.DNA	501	TTATAATCAA	TTTAATTATG	GCCATGGGAG	ATGGAAAGAT	TGGCAACAGC	550
12002-5.DNA	501	TTATAATCAA	TTTAATTATG	GCCATGGGAG	ATGGAAAGAT	TGGCAACAGC	550
12002-6.DNA	501	TTATAATCAA	TTTAATTATG	GCCATGGGAG	ATGGAAAGAT	TGGCAACAGC	550
12002-7.DNA	501	TTATAATCAA	TTTAATTATG	GCCATGGGAG	ATGGAAAGAT	TGGCAACAGC	550
12002-1.DNA	551	GGGTACAAAA	AGATGTACGA	AATAAGCAA	TAAGCTGTCA	TTCGTTAGAC	600
12002-2.DNA	551	GGGTACAAAA	AGATGTACGA	AATAAGCAA	TAAGCTGTCA	TTCGTTAGAC	600
12002-3.DNA	551	-----	-----	-----	-----	-----	600
12002-4.DNA	551	GGGTACAAAA	AGATGTACGA	AATAAGCAA	TAAGCTGTCA	TTCGTTAGAC	600
12002-5.DNA	551	GGGTACAAAA	AGATGTACGA	AATAAGCAA	TAAGCTGTCA	TTCGTTAGA-	600
12002-6.DNA	551	GGGTACAAAA	AGATGTACGA	AATAAGCAA	TAAGCTGTCA	TTCGTTAGA-	600
12002-7.DNA	551	GGGTACAAAA	AGATGTACGA	AATAAGCAA	TAAGCTGTCA	TTCGTTAGAC	600

FIGURE 5(a) Sequence from 11619-1

ATGCATCCA CGTTAAGCCG GCGCCACCTC CCGATTGGG GTGGAAAGCC 50
GAAAAGACTG AAAATCCCT TAAGCTTCGC CTCCATCGCG TGGTTCCTTA 100
CTCTGTCAAT AACTCCTCAA GTTAATGGTA AACGCCTTGT GGACAGCCCG 150
AACTCCCATA AACCCATTATC TCTCACCTGG TTACTTACTG ACTCCGGTAC 200
AGGTATTAAT ATTAACAGCA CTCAAGGGGA GGCTCCCTTG GGGACCTGGT 250
GGCCTGAATT ATATGTCTGC CTTCGATCAG TAATCCCTGG TCTCAATGAC 300
CAGGCCACAC CCCCCGATGT ACTCCGTGCT TACGGGTTT ACAGTTGCC 350
AGGACCCCCA AATAATGAAG AATATTGTGG AAATCCTCAG GATTTCTTT 400
GCAAGCAATG GAGCTGCGTA ACTTCTAATG ATGGGAATTG GAAATGGCCA 450
GTCTCTCAGC AAGACAGAGT AAGTTACTCT TTTGTTAACCA ATCCTACCAG 500
TTATAATCAA TTTAATTATG GCCATGGGAG ATGGAAAGAT TGGCAACAGC 550
GGGTACAAAA AGATGTACGA AATAAGCAAA TAAGCTGTCA TTCGTTAGA

FIGURE 5(b) Sequence from 11619-2

ATGCATCCA CGTTAAGCCG GCGCCACCTC CCGATTGGG GTGGAAAGCC 50
GAAAAGACTG AAAATCCCT TAAGCTTCGC CTCCATCGCG TGGTTCCTTA 100
CTCTGTCAAT AACTCCTCAA GTTAATGGTA AACGCCTTGT GGACAGCCCG 150
AACTCCCATA AACCCATTATC TCTCACCTGG TTACTTACTG ACTCCGGTAC 200
AGGTATTAAT ATTAACAGCA CTCAAGGGGA GGCTCCCTTG GGGACCTGGT 250
GGCCTGAATT ATATGTCTGC CTTCGATCAG TAATCCCTGG CCTCAATGAC 300
CAGGCCACAC CCCCCGATGT ACTCCGTGCT TACGGGTTT ACAGTTGCC 350
AGGACCCCCA AATAATGAAG AATATTGTGG AAATCCTCAG GATTTCTTT 400
GCAAGCAATG GAGCTGCGTA ACTTCTAATG ATGGGAATTG GAAATGGCCA 450
GTCTCTCAGC AAGACAGAGT AAGTTACTCT TTTGTTAACCA ATCCTACCAG 500
TTATAATCAA TTTAATTATG GCCATGGGAG ATGGAAAGAT TGGCAACAGC 550
GGGTACAAAA AGATGTACGA AATAAGCAAA TAAGCTGTCA TTCGTTAGA

FIGURE 5(c) Sequence from 11619-3

ATGCATCCA CGTTAAGCCG GCGCCACCTC CCGATTGGG GTGGAAAGCC 50
GAAAAGACTG AAAATCCCT TAAGCTTCGC CTCCATCGCG TGGTTCCTTA 100
CTCTGTCAAT AACTCCTCAA GTTAATGGTA AACGCCTTGT GGACAGCCCG 150
AACTCCCATA AACCCATTATC TCTCACCTGG TTACTTACTG ACTCCGGTAC 200
AGGTATTAAT ATTAACAGCA CTCAAGGGGA GGCTCCCTTG GGGACCTGGT 250
GGCCTGAATT ATATGTCTGC CTTCGATCAG TAATCCCTGG TCTCAATGAC 300
CAGGCCACAC CCCCCGATGT ACTCCGTGCT TACGGGTTT ACAGTTGCC 350
AGGACCCCCA AATAATGAAG AATATTGTGG AAATCCTCAG GATTTCTTT 400
GCAAGCAATG GAGCTGCGTA ACTTCTAATG ATGGGAATTG GAAATGGCCA 450
GTCTCTCAGC AAGACAGAGT AAGTTACTCT TTTGTTAACCA ATCCTACCAG 500
TTATAATCAA TTTAATTATG GCCATGGGAG ATGGAAAGAT TGGCAACAGC 550
GGGTACAAAA AGATGTACGA AATAAGCAAA TAAGCTGTCA TTCGTTAGA

FIGURE 5(d) Sequence from 11619-4

GACAGCCCGA ACTCCCATAA ACCCTCATCT CTCACCTGGT TACTTACTGA 50
CTCCGGTACA GGTATTAATA TTAACAGCAC TCAAGGGGAG GCTCCCTGG 100
GGACCTGGTG GCCTGAATTA TATGTCTGCC TTGATCAGT AATCCCTGGT 150
CTCAATGACC AGGCCACACC CCCCGATGTA CTCCGTGCTT ACGGGTTTA 200
CGTTGCCCA GGACCCCCAA ATAATGAAGA ATATTGTGGA AATCCTCAGG 250
ATTTCTTTG CAAGCAATGG AGCTGCGTAA CTTCTAATGA TGGGAATTGG 300
AAATGGCCAG TCTCTCAGCA AGACAGAGTA AGTTACTCTT TTGTTAACAA 350
TCCTACCTAT AATAATCAAT TTAATTATGG CCATGGGAGA TGGAAAGATT 400
GGCAACAGCG GGTACAAAAA GATGTACGAA ATAAGCAAAT AAGCTGTCAT 450
TCGTTAGA

FIGURE 5(e) Sequence from 11619-5

TTAATGGTAA ACGCCTTGTG GACAGCCCGA ACTCCCATAA ACCCTTATCT 50
CTCACCTGGT TACTTACTGA CTCCGGTACA GGTATTAATA TTAACAGCAC 100
TCAAGGGGAG GCTCCCTGGG GGACCTGGTG GCCTGAATTA TATGTCTGCC 150
TTCGATCAGT AATCCCTGGT CTCAATGACC AGGCCACACC CCCCGATGTA 200
CTCCGTGCTT ACGGGTTTA CGTTGCCCA GGACCCCCAA ATAATGAAGA 250
ATATTGTGGA AATCCTCAGG ATTTCTTTG CAGGCAATGG AGCTGCGTAA 300
CTTCTAATGA TGGAAATTGG AAATGGCCAG TCTCTCAGCA AGACAGAGTA 350
AGTTACTCTT TTGTTAACAA TCCTACCACT TATAATCAAT TTAATTATGG 400
CCATGGGAGA TGGAAAGATT GGCAACAGCG GGTACAAAAA GATGTACGAA 450
ATAAGCAAAT AAGCTGTCAT TCGTTAGA

FIGURE 5(f) Sequence from 11619-6

TTAATGGTAA ACGCCTTGTG GACAGCCCGA ACTCCCATAA ACCCTTATCT 50
CTCACCTGGT TACTTACTGA CTCCGGTACA GGTATTAATA TTAACAGCAC 100
TCAAGGGGAG GCTCCCTGGG GGACCTGGTG GCCTGAATTA TATGTCTGCC 150
TTCGATCAGT AATCCCTGGT CTCAATGACC AGGCCACACC CCCCGATGTA 200
CTCCGTGCTT ACGGGTTTA CGTTGCCCA GGACCCCCAA ATAATGAAGA 250
ATATTGTGGA AATCCTCAGG ATTTCTTTG CAAGCAATGG AGCTGCGTAA 300
CTTCTAATGA TGGAAATTGG AAATGGCCAG TCTCTCAGCA AGACAGAGTA 350
AGTTACTCTT TTGTTAACAA TCCTACCACT TATAATCAAT TTAATTATGG 400
CCATGGGAGA TGGAAAGATT GGCAACAGCG GGTACAAAAA GATGTACGAA 450
ATAAGCAAAT AAGCTGTCAT TCGTTAGA

FIGURE 5(g) Sequence from 11619-7

GACAGCCCGA ACTCCCATAA ACCCTTATCT CTCACCTGGT TACTTACTGA 50
CTCCGGTACA GGTATTAATA TTAACAGCAC TCAAGGGGAG GCTCCCTGG 100
GGACCTGGTG GCCTGAATTA TATGTCTGCC TTGATCAGT AATCCCTGGT 150
CTCAATGACC AGGCCACACC CCCCGATGTA CTCCGTGCTT ACGGGTTTA 200
CGTTGCCCA GGACCCCCAA ATAATGAAGA ATATTGTGGA AATCCTCAGG 250
ATTCTTTTG CAAGCAATGG AGCTGCGTAA CTTCTAATGA TGGGAATTGG 300
AAATGGCCAG TCTCTCAGCA AGACAGAGTA AGTTACTCTT TTGTTAACAA 350
TCCTACCACT TATAATCAAT TTAATTATGG CCATGGGAGA TGGAAAGATT 400
GGCAACAGCG GGTACAAAAA GATGTACGAA ATAAGCAAAT AAGCTGTCAT 450
TCGTTAGA

FIGURE 5(h) Sequence from 11619-8

TTAATGGTAA ACGCCTTGTG GACAGCCCGA ACTCCCATAA ACCCTTATCT 50
CTCACCTGGT TACTTACTGA CTCCGGTACA GGTATTAATA TTAACAGCAC 100
TCAAGAGGAG GCTCCCTGG GGACCTGGTG GCCTGAATTA TATGTCTGCC 150
TTCGATCAGT AATCCCTGGT CTCAATGACC AGGCCACACC CCCCGATGTA 200
CTCCGTGCTT ACGGGTTTA CGTTGCCCA GGACCCCCAA ATAATGAAGA 250
ATATTGTGGA AATCCTCAGG ATTCTTTTG CAAGCAATGG AGCTGCGTAA 300
CTTCTAATGA TGGGAATTGG AAATGGCCAG TCTCTCAGCA AGACAGAGTA 350
AGTTACTCTT TTGTTAACAA TCCTACCACT TATAATCAAT TTAATTATGG 400
CCATGGGAGA TGGAAAGATT GGCAACAGCG GGTACAAAAA GATGTACGAA 450
ATAAGCAAAT AAGCTGTCAT TCGTTAGA

FIGURE 5(i) Sequence from 11619-9

TTAATGGTAT GCGCCTTGTG GACTGCCCGA ACTCCCATAA ACCCTTATCT 50
CTCACCTGGT TACTTACTGA CTCCGGTACA GGTATTAATA TTAACATCAC 100
TCAAGGGGAG GCTCCCTGG GGACCTGGTG GCCTGAATTA TATGTCTGCC 150
TTCGATCAGT AATCCCTGGT CTCAATGACC AGGCCACACC CCCCGATGTA 200
CTCCGTGCTT ACGGGTTTA CGTTGCCCA GGACCCCCAA ATAATGAAGA 250
ATATTGTGGA AATCCTCAGG ATTCTTTTG CAAGCAATGG AGCTGCGTAA 300
CTTCTAATGA TGGGAATTGG AAATGGCCAG TCTCTCAGCA AGACAGAGTA 350
AGTTACTCTT TTGTTAACAA TCCTACCACT TATAATCAAT TTAATTATGG 400
CCATGGGAGA TGGAAAGATT GGCAACAGCG GGTACAAAAA GATGTACGAA 450
ATAAGCAAAT AAGCTGTCAT TCGTTAGA

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FIGURE 6 Comparison of the sequences derived from pig 11619

11619-1.DNA	1	ATGCATCCC CGTTAACCG GCGCCACCTC CCGATTGGG GTGGAAAGCC	50
11619-2.DNA	1	ATGCATCCC CGTTAACCG GCGCCACCTC CCGATTGGG GTGGAAAGCC	50
11619-3.DNA	1	ATGCATCCC CGTTAACCG GCGCCACCTC CCGATTGGG GTGGAAAGCC	50
11619-4.DNA	1	-----	50
11619-5.DNA	1	-----	50
11619-6.DNA	1	-----	50
11619-7.DNA	1	-----	50
11619-8.DNA	1	-----	50
11619-9.DNA	1	-----	50
11619-1.DNA	51	GAAAAGACTG AAAATCCCCT TAAGCTTCGC CTCCATCGCG TGGTTCCCTTA	100
11619-2.DNA	51	GAAAAGACTG AAAATCCCCT TAAGCTTCGC CTCCATCGCG TGGTTCCCTTA	100
11619-3.DNA	51	GAAAAGACTG AAAATCCCCT TAAGCTTCGC CTCCATCGCG TGGTTCCCTTA	100
11619-4.DNA	51	-----	100
11619-5.DNA	51	-----	100
11619-6.DNA	51	-----	100
11619-7.DNA	51	-----	100
11619-8.DNA	51	-----	100
11619-9.DNA	51	-----	100
11619-1.DNA	101	CTCTGTCAAT AACTCCTCAA GTTAATGGTA AACGCCCTTGT GGACAGCCCG	150
11619-2.DNA	101	CTCTGTCAAT AACTCCTCAA GTTAATGGTA AACGCCCTTGT GGACAGCCCG	150
11619-3.DNA	101	CTCTGTCAAT AACTCCTCAA GTTAATGGTA AACGCCCTTGT GGACAGCCCG	150
11619-4.DNA	101	-----	150
11619-5.DNA	101	-----	150
11619-6.DNA	101	-----	150
11619-7.DNA	101	-----	150
11619-8.DNA	101	-----	150
11619-9.DNA	101	-----	150
11619-1.DNA	151	AACTCCATA AACCCCTTATC TCTCACCTGG TTACTTACTG ACTCCGGTAC	200
11619-2.DNA	151	AACTCCATA AACCCCTTATC TCTCACCTGG TTACTTACTG ACTCCGGTAC	200
11619-3.DNA	151	AACTCCATA AACCCCTTATC TCTCACCTGG TTACTTACTG ACTCCGGTAC	200
11619-4.DNA	151	AACTCCATA AACCCCTCATC TCTCACCTGG TTACTTACTG ACTCCGGTAC	200
11619-5.DNA	151	AACTCCATA AACCCCTTATC TCTCACCTGG TTACTTACTG ACTCCGGTAC	200
11619-6.DNA	151	AACTCCATA AACCCCTTATC TCTCACCTGG TTACTTACTG ACTCCGGTAC	200
11619-7.DNA	151	AACTCCATA AACCCCTTATC TCTCACCTGG TTACTTACTG ACTCCGGTAC	200
11619-8.DNA	151	AACTCCATA AACCCCTTATC TCTCACCTGG TTACTTACTG ACTCCGGTAC	200
11619-9.DNA	151	AACTCCATA AACCCCTTATC TCTCACCTGG TTACTTACTG ACTCCGGTAC	200
11619-1.DNA	201	AGGTATTAAT ATTAACAGCA CTCAGGGGA GGCTCCCTTG GGGACCTGGT	250
11619-2.DNA	201	AGGTATTAAT ATTAACAGCA CTCAGGGGA GGCTCCCTTG GGGACCTGGT	250
11619-3.DNA	201	AGGTATTAAT ATTAACAGCA CTCAGGGGA GGCTCCCTTG GGGACCTGGT	250
11619-4.DNA	201	AGGTATTAAT ATTAACAGCA CTCAGGGGA GGCTCCCTTG GGGACCTGGT	250
11619-5.DNA	201	AGGTATTAAT ATTAACAGCA CTCAGGGGA GGCTCCCTTG GGGACCTGGT	250
11619-6.DNA	201	AGGTATTAAT ATTAACAGCA CTCAGGGGA GGCTCCCTTG GGGACCTGGT	250
11619-7.DNA	201	AGGTATTAAT ATTAACAGCA CTCAGGGGA GGCTCCCTTG GGGACCTGGT	250
11619-8.DNA	201	AGGTATTAAT ATTAACAGCA CTCAGGGGA GGCTCCCTTG GGGACCTGGT	250
11619-9.DNA	201	AGGTATTAAT ATTAACAGCA CTCAGGGGA GGCTCCCTTG GGGACCTGGT	250
11619-1.DNA	251	GGCCTGAATT ATATGTCTGC CTCGATCAG TAATCCCTGG TCTCAATGAC	300
11619-2.DNA	251	GGCCTGAATT ATATGTCTGC CTCGATCAG TAATCCCTGG CCTCAATGAC	300
11619-3.DNA	251	GGCCTGAATT ATATGTCTGC CTCGATCAG TAATCCCTGG TCTCAATGAC	300
11619-4.DNA	251	GGCCTGAATT ATATGTCTGC CTCGATCAG TAATCCCTGG TCTCAATGAC	300
11619-5.DNA	251	GGCCTGAATT ATATGTCTGC CTCGATCAG TAATCCCTGG TCTCAATGAC	300
11619-6.DNA	251	GGCCTGAATT ATATGTCTGC CTCGATCAG TAATCCCTGG TCTCAATGAC	300
11619-7.DNA	251	GGCCTGAATT ATATGTCTGC CTCGATCAG TAATCCCTGG TCTCAATGAC	300
11619-8.DNA	251	GGCCTGAATT ATATGTCTGC CTCGATCAG TAATCCCTGG TCTCAATGAC	300
11619-9.DNA	251	GGCCTGAATT ATATGTCTGC CTCGATCAG TAATCCCTGG TCTCAATGAC	300
11619-1.DNA	301	CAGGCCACAC CCCCCGATGT ACTCCGTGCT TACGGGTTTT ACGTTTGGCC	350
11619-2.DNA	301	CAGGCCACAC CCCCCGATGT ACTCCGTGCT TACGGGTTTT ACGTTTGGCC	350
11619-3.DNA	301	CAGGCCACAC CCCCCGATGT ACTCCGTGCT TACGGGTTTT ACGTTTGGCC	350
11619-4.DNA	301	CAGGCCACAC CCCCCGATGT ACTCCGTGCT TACGGGTTTT ACGTTTGGCC	350
11619-5.DNA	301	CAGGCCACAC CCCCCGATGT ACTCCGTGCT TACGGGTTTT ACGTTTGGCC	350
11619-6.DNA	301	CAGGCCACAC CCCCCGATGT ACTCCGTGCT TACGGGTTTT ACGTTTGGCC	350
11619-7.DNA	301	CAGGCCACAC CCCCCGATGT ACTCCGTGCT TACGGGTTTT ACGTTTGGCC	350
11619-8.DNA	301	CAGGCCACAC CCCCCGATGT ACTCCGTGCT TACGGGTTTT ACGTTTGGCC	350
11619-9.DNA	301	CAGGCCACAC CCCCCGATGT ACTCCGTGCT TACGGGTTTT ACGTTTGGCC	350

Figure 6 (cont'd)

11619-1.DNA	351	AGGACCCCCA AATAATGAAG AATATTGTGG	AAATCCTCAG	GATTTCCTTT	400
11619-2.DNA	351	AGGACCCCCA AATAATGAAG AATATTGTGG	AAATCCTCAG	GATTTCCTTT	400
11619-3.DNA	351	AGGACCCCCA AATAATGAAG AATATTGTGG	AAATCCTCAG	GATTTCCTTT	400
11619-4.DNA	351	AGGACCCCCA AATAATGAAG AATATTGTGG	AAATCCTCAG	GATTTCCTTT	400
11619-5.DNA	351	AGGACCCCCA AATAATGAAG AATATTGTGG	AAATCCTCAG	GATTTCCTTT	400
11619-6.DNA	351	AGGACCCCCA AATAATGAAG AATATTGTGG	AAATCCTCAG	GATTTCCTTT	400
11619-7.DNA	351	AGGACCCCCA AATAATGAAG AATATTGTGG	AAATCCTCAG	GATTTCCTTT	400
11619-8.DNA	351	AGGACCCCCA AATAATGAAG AATATTGTGG	AAATCCTCAG	GATTTCCTTT	400
11619-9.DNA	351	AGGACCCCCA AATAATGAAG AATATTGTGG	AAATCCTCAG	GATTTCCTTT	400
11619-1.DNA	401	GCAAGCAATG GAGCTGCGTA ACTTCTAATG	ATGGGAATTG	GAAATGGCCA	450
11619-2.DNA	401	GCAAGCAATG GAGCTGCGTA ACTTCTAATG	ATGGGAATTG	GAAATGGCCA	450
11619-3.DNA	401	GCAAGCAATG GAGCTGCGTA ACTTCTAATG	ATGGGAATTG	GAAATGGCCA	450
11619-4.DNA	401	GCAAGCAATG GAGCTGCGTA ACTTCTAATG	ATGGGAATTG	GAAATGGCCA	450
11619-5.DNA	401	GCAAGCAATG GAGCTGCGTA ACTTCTAATG	ATGGGAATTG	GAAATGGCCA	450
11619-6.DNA	401	GCAAGCAATG GAGCTGCGTA ACTTCTAATG	ATGGGAATTG	GAAATGGCCA	450
11619-7.DNA	401	GCAAGCAATG GAGCTGCGTA ACTTCTAATG	ATGGGAATTG	GAAATGGCCA	450
11619-8.DNA	401	GCAAGCAATG GAGCTGCGTA ACTTCTAATG	ATGGGAATTG	GAAATGGCCA	450
11619-9.DNA	401	GCAAGCAATG GAGCTGCGTA ACTTCTAATG	ATGGGAATTG	GAAATGGCCA	450
11619-1.DNA	451	GTCTCTCAGC AAGACAGAGT AAGTTACTCT	TTTGTAAACA	ATCCTACCGAG	500
11619-2.DNA	451	GTCTCTCAGC AAGACAGAGT AAGTTACTCT	TTTGTAAACA	ATCCTACCGAG	500
11619-3.DNA	451	GTCTCTCAGC AAGACAGAGT AAGTTACTCT	TTTGTAAACA	ATCCTACCGAG	500
11619-4.DNA	451	GTCTCTCAGC AAGACAGAGT AAGTTACTCT	TTTGTAAACA	ATCCTACCTA	500
11619-5.DNA	451	GTCTCTCAGC AAGACAGAGT AAGTTACTCT	TTTGTAAACA	ATCCTACCGAG	500
11619-6.DNA	451	GTCTCTCAGC AAGACAGAGT AAGTTACTCT	TTTGTAAACA	ATCCTACCGAG	500
11619-7.DNA	451	GTCTCTCAGC AAGACAGAGT AAGTTACTCT	TTTGTAAACA	ATCCTACCGAG	500
11619-8.DNA	451	GTCTCTCAGC AAGACAGAGT AAGTTACTCT	TTTGTAAACA	ATCCTACCGAG	500
11619-9.DNA	451	GTCTCTCAGC AAGACAGAGT AAGTTACTCT	TTTGTAAACA	ATCCTACCGAG	500
11619-1.DNA	501	TTATAATCAA TTTAATTATG GCCATGGGAG	ATGGAAAGAT	TGGCAACAGC	550
11619-2.DNA	501	TTATAATCAA TTTAATTATG GCCATGGGAG	ATGGAAAGAT	TGGCAACAGC	550
11619-3.DNA	501	TTATAATCAA TTTAATTATG GCCATGGGAG	ATGGAAAGAT	TGGCAACAGC	550
11619-4.DNA	501	TTATAATCAA TTTAATTATG GCCATGGGAG	ATGGAAAGAT	TGGCAACAGC	550
11619-5.DNA	501	TTATAATCAA TTTAATTATG GCCATGGGAG	ATGGAAAGAT	TGGCAACAGC	550
11619-6.DNA	501	TTATAATCAA TTTAATTATG GCCATGGGAG	ATGGAAAGAT	TGGCAACAGC	550
11619-7.DNA	501	TTATAATCAA TTTAATTATG GCCATGGGAG	ATGGAAAGAT	TGGCAACAGC	550
11619-8.DNA	501	TTATAATCAA TTTAATTATG GCCATGGGAG	ATGGAAAGAT	TGGCAACAGC	550
11619-9.DNA	501	TTATAATCAA TTTAATTATG GCCATGGGAG	ATGGAAAGAT	TGGCAACAGC	550
11619-1.DNA	551	GGGTACAAAA AGATGTACGA AATAAGCAAA	TAAGCTGTCA	TTCGTTAGA.	600
11619-2.DNA	551	GGGTACAAAA AGATGTACGA AATAAGCAAA	TAAGCTGTCA	TTCGTTAGA.	600
11619-3.DNA	551	GGGTACAAAA AGATGTACGA AATAAGCAAA	TAAGCTGTCA	TTCGTTAGA.	600
11619-4.DNA	551	GGGTACAAAA AGATGTACGA AATAAGCAAA	TAAGCTGTCA	TTCGTTAGA.	600
11619-5.DNA	551	GGGTACAAAA AGATGTACGA AATAAGCAAA	TAAGCTGTCA	TTCGTTAGA.	600
11619-6.DNA	551	GGGTACAAAA AGATGTACGA AATAAGCAAA	TAAGCTGTCA	TTCGTTAGA.	600
11619-7.DNA	551	GGGTACAAAA AGATGTACGA AATAAGCAAA	TAAGCTGTCA	TTCGTTAGA.	600
11619-8.DNA	551	GGGTACAAAA AGATGTACGA AATAAGCAAA	TAAGCTGTCA	TTCGTTAGA.	600
11619-9.DNA	551	GGGTACAAAA AGATGTACGA AATAAGCAAA	TAAGCTGTCA	TTCGTTAGA.	600

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